

IN THE SPECIFICATION:

Please add paragraph number [0000] before the title “FIELD OF THE INVENTION” on page 2 with the following paragraph:

[0000] Claim of Priority: Pursuant to the provisions of 35 U.S.C. 119(e), this application claims the benefit of the filing date of provisional patent application Serial No. 60/398,905, filed July 26, 2002, for “Smart Loader for Flash Video Slicing and Method and System for Same.”

Please replace paragraph number [0001] with the following rewritten paragraph:

[0001] The present invention relates generally to image compression techniques applicable to motion video. More specifically, the present invention includes a Smart Loader for video slicing and and a method and system for using sliced video.

Please replace paragraph number [0004] with the following rewritten paragraph:

[0004] While Flash™ MX has improved on the performance of Flash™ technology, there are limitations in the playback of video in Flash™ delivered via Macromedia Flash™ file format (SWF) files, particularly limiting the length of single file movie clips. More specifically, the Flash™ player loads the whole Flash™ SWF file into memory. Because of this, the allowable size of a SWF file played by the Flash™ player depends on available system memory. While desktop computer systems generally have enough memory to allow for approximately a 40MB-50MB SWF file to load and play, handhelds and other embedded devices, which support Flash™, may have much less available memory. The Flash™ SWF format also limits the size of a single SWF video to 16000 frames. This limits the length a of a 30 fps video to about 8.9 minutes.

Please replace paragraph number [0006] with the following rewritten paragraph:

[0006] According to the conventional method, each slice would load and play in turn and, when completed, the next consecutive slice would play. Typically, a certain frame in the video called a “playhead” will cause the computer to download the next slice of video once that video frame is reached. This serial load and play architecture 22 is illustrated in the block diagram of ~~FIG~~ FIG. 2. When a slice, for example, slice 24, is done playing, a subsequent slice, for example, slice 26, begins playing. The process continues until slices 28-32 have each completed. Although this conventional method works adequately in continuous playback from a local hard disk, there are several disadvantages with implementing this type of architecture.

Please replace paragraph number [0009] with the following rewritten paragraph:

[0009] The present invention is a “Smart Loader” method and system that allows compression software to create sliced computer videos in a manner that supports the playback of longer video and gives the user more control than standard video players. One embodiment of the invention is a method for creating a set of one or more sliced video files by generating a script configured to run independently of one or more sliced video files, ~~said the~~ further configured to control playing and loading of one or more of ~~said the~~ sliced video files.

Please replace paragraph number [0010] with the following rewritten paragraph:

[0010] Another exemplary embodiment of the invention is a system for slicing video, comprising a ~~smart loader~~ Smart Loader for selectively controlling video slicing by generating a control file, an automated compressor engine (ACE) in communication with the ~~smart loader~~ Smart Loader, where ~~said the~~ ACE is configured for generating a set of video slices from a video source, and ~~said the ACE~~ ACE is further configured to create a custom loader. The set of video slices are configured for generating a video based on the set of video slices and a custom loader, in accordance with the control file.

Please replace paragraph number [0011] with the following rewritten paragraph:

[0011] Another exemplary embodiment of the invention is a system for slicing video, comprising an automated compression engine (ACE) that uses a source video and a ~~smart loader~~ Smart Loader script to create a set of one or more video slices, wherein ~~said~~ the set contains a custom scripted control file.

Please replace paragraph number [0018] with the following rewritten paragraph:

[0018] Embodiments of the present invention include a “Smart Loader” method and system that ~~allows~~ allow compression software to create sliced computer videos in a manner that supports the playback of longer video and gives the user more control than standard video players. In various embodiments of the invention, features of the Smart Loader of the present invention include: (1) the Smart Loader system which creates an automated method for generating video slices that overcome the memory and frame number limitations of sliced video files, for example Flash™ SWF files; (2) the Smart Loader may preload the slices independently at anytime, allowing the Smart Loader to have slices ready to play when the previous slice has finished and also providing a smooth transition from one slice to the next even over low bandwidth Internet connections; (3) the independence feature may allow the Smart Loader to make video loading decisions based on things like connection bandwidth and buffering models in order to play the video as smoothly and consistently as possible for the best possible user experience; (4) the control can be user configurable, instead of frame-based, the Smart Loader has complete control over which slice is playing and where it is playing within that slice, allowing for advanced controls such as fast forward, rewind, and generally seeking to locations in the video even if it crosses slice boundaries; and (5) the independence feature of the Smart Loader allows for deciding which slice to play next based on any defined criteria, which could be used for things such as changing the rating of a video based on the user profile by simply skipping a slice or playing a lower rated slice instead, and by allowing decisions to be made as to what to play based on how much a user has paid.

Please replace paragraph number [0019] with the following rewritten paragraph:

[0019] Embodiments of the present invention further include a Smart Loader method and system for creating, loading, controlling, and playing sliced computer video. The embodiments of the present invention may be incorporated with software such as, but is not limited to, Macromedia Flash™ video player, the specifications of which are herein incorporated by reference and available from Macromedia of San Francisco, California. The Flash™ architecture allows for the combination of vector graphics, images and video and further includes a scripting language that allows for advanced control over a Flash™ type video. An example of the scripting language includes ActionScript™ available from Macromedia, Inc. In one example, the Smart Loader 34 may be a Flash™ ActionScript™ type system that runs outside of the frame-based video illustrated as individual slices 36-44 as can be seen in FIG. 3. The slices 36-44 are each loaded individually ~~at under~~ the control of the Smart Loader 34. This independence gives it several advantages over the conventional method of "A Loads B," as depicted in the prior art of FIG. 2, including preloading slices 36-44 at any time. This allows the Smart Loader 34 to have subsequent slices ready to play when the previous slice has finished. This independence feature gives a smooth transition from one slice to the next, even over low bandwidth Internet connections. Another advantage of the Smart Loader 34 independence feature is that it can allow loading decisions based on connection bandwidth and buffering models in order to play the video as smoothly and consistently as possible for the best possible user experience.

Please replace paragraph number [0020] with the following rewritten paragraph:

[0020] One embodiment of the Smart Loader 34 of the present invention can include user controls such as ~~but not limited to~~ script language control, for example, ~~ActionScript™~~ ActionScript™ based control or the like. Since the control is script-based instead of frame-based, the Smart Loader 34 has complete control over which slice is playing and where it is playing within that slice. This Smart Loader 34 feature allows for advanced controls for play,

stop, fast forward, rewind, go to start, go to end, and generally seeking to locations in the video, even if it crosses slice boundaries.

Please replace paragraph number [0021] with the following rewritten paragraph:

[0021] Yet another advantage of the independence feature of the Smart Loader 34 is deciding which slice 36-44 to play ~~next~~ next, based on any defined criteria. For instance, this may be used to change the rating of a video based on the user profile by simply skipping a slice or playing a lower rated slice. Decisions as to what to play may also be decided based on how much a user has paid. Of course, other advantages based on the advanced control feature of the Smart Loader of the present invention will be readily apparent to one of ordinary skill in the art.

Please replace paragraph number [0023] with the following rewritten paragraph:

[0023] FIG. 4 illustrates a block diagram of one embodiment of a system architecture 46 according to the Smart Loader 34 of the present invention. In this embodiment, ~~video-compressor~~ compressor 48 software, for example, Squeeze™ software available from Sorenson Media, Inc., controls an Automated Compression Engine (ACE) 50, an example of which is the ACE software available from Sorenson Media, Inc., which sets data (such as video) compression parameters and an output format of the video. ACE 50 can then take as input script 52, for example, an ActionScript™ that the Smart Loader 34 previously created with, for example, Flash™ MX and a video source 54, and generates SWF slices 56-62 and a custom loader 64 for that set of slices 56-62. Thereafter, ~~those files~~ slices 56-6462 are referred to as an integrated set 66 and may optionally be uploaded to an automated video file server 68, such as but not limited to Vcast™, also available from Sorenson Media, Inc. This integrated set 66 representing the original video can be played or broadcast by using a Smart Loader file as is known in the art.

Please replace paragraph number [0025] with the following rewritten paragraph:

[0025] 1. Video compression type software, an example of which is Squeeze™, may be modified to include user interface (UI) components to control the creation of the ~~sliced~~-SWF files slices 56-62.

Please replace paragraph number [0027] with the following rewritten paragraph:

[0027] 3. ~~A~~An SWF file format tool may be generated for inclusion in an ACE to dynamically modify the SWF file to create a loader customized to the given frame rate, video dimensions, base name, number of slices, and the like.

Please replace paragraph number [0029] with the following rewritten paragraph:

[0029] 5. Modifications may be made to the video file server 68, for example, a Vcast™ type component, in the ACE 50 to support the uploading of the integrated set 66 of SWF ~~files slices~~ 56-6462. Each of these components is described in further detail below.

Please replace paragraph number [0031] with the following rewritten paragraph:

[0031] The Smart Loader 34 may be a loading script which may be created using Flash™ MX and ActionScript™ type software, the specifications of which are available from the manufacturer and the programming of which is known by those of ordinary skill in the art. The generated SWF file containing the Smart Loader 34 is made available to the ACE 50 as an input. The ACE 50 may use a video source-video 54 and a Smart Loader script 52 to create a set of one or more Flash™ type video slices 56-62 that contain a custom scripted control file. Computer instructions or “code” may be written to allow the ACE 50 to customize the SWF file based on the specific parameters of the sliced set. An exemplary configuration of the Smart Loader 34 may further include:

Please replace paragraph number [0048] with the following rewritten paragraph:

[0048] Furthermore, the input script 52, an example of which is an ActionScript™, may be generated offline with, for example, the Macromedia MX™ or similar type authoring tool. The SWF file that is generated may be modified to adjust the parameters described above or any other parameters. The SWF file may be searched and the contents changed according to those modifications with a new SWF file being generated which contains those modifications.

Please replace paragraph number [0049] with the following rewritten paragraph:

[0049] The ACE 50 may be modified such that if instructed to do so, the ACE 50 creates a set of files for which the sum of the parts represents the whole video. The ACE 50 may output the Loader custom loader 64 as the first file and each of the video segments as slices 56-62 numbered as, for example and not by way of limitation, “baseNameNUM” where NUM is the slice number from 0 to N - 1, where N is an integer representing the total number of slices.

Please replace paragraphs number [0052] with the following rewritten paragraph:

[0052] 1. A Smart Loader created using Flash™ type or similar software development kit (SDK) calls or for direct script creation, rather than being written with Flash™ MX type or similar software and integrated as described herein.